

REMARKS

Entry of the foregoing and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.111 and in light of the remarks which follow, are respectfully requested.

By the above amendments, claims 1-4 have been canceled without prejudice or disclaimer. Each of claims 5, 7 and 9 has been amended to be in independent form by incorporating the subject matter of claim 1 therein. Claim 9 has further been amended for readability purposes by replacing the word “values” with “value”. Claims 10 and 15 have been amended to properly depend from claims 9 and 14, respectively. Claim 14 has been amended for readability purposes by adding the word “is” after the phrase “the optically anisotropic layer” and before the phrase “formed from liquid crystal molecules and monomers having four or more double bonds”.

In the Official Action, claims 1-4 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,410,130 (*Schuhmacher et al*). Without addressing the propriety of this rejection, it is noted that such rejection is moot in light of the above cancellation of claims 1-4. For at least this reason, withdrawal of the §102(b) rejection based on *Schuhmacher et al* is respectfully requested.

Claims 5-8 stand rejected under 35 U.S.C. §103(a) as being obvious over *Schuhmacher et al* in view of U.S. Patent No. 5,747,121 (*Okazaki et al*). Withdrawal of this rejection is respectfully requested for at least the following reasons.

According to one aspect defined by claim 5, an optical compensatory sheet is provided comprising a transparent support and an optically anisotropic layer, wherein the optically anisotropic layer is formed from liquid crystal molecules and monomers having four or more double bonds, said monomers being polymerized to form a cross-linked polymer in

the optically anisotropic layer, and wherein the liquid crystal molecules are discotic liquid crystal molecules.

According to another aspect defined by claim 7, an optical compensatory sheet is provided comprising a transparent support and an optically anisotropic layer, wherein the optically anisotropic layer is formed from liquid crystal molecules and monomers having four or more double bonds, said monomers being polymerized to form a cross-linked polymer in the optically anisotropic layer, and wherein an orientation layer is provided between the transparent support and the optically anisotropic layer.

Schuhmacher et al relates to cholesteric special-effect layers, to processes for their preparation and to their use (col. 1, lines 5-7). *Schuhmacher et al* discloses that “[t]he color effects which can be achieved by means of the cholesteric films or cholesteric pigments [thereof] embrace—owing to the host of achievable reflection wave—lengths the UV and IR region as well as, of course, the region of visible light” (col. 46, lines 35-39). *Schuhmacher et al* also discloses that the pigments thereof can be applied to or incorporated into banknotes, cheque cards, other cashless means of payment or ID (col. 46, lines 39-41).

Schuhmacher et al does not disclose or suggest each feature of aspects defined by claims 5 and 7. For example, as acknowledged at page 5 of the Official Action, *Schuhmacher et al* does not disclose or suggest an optical compensatory sheet comprising an optically anisotropic layer formed from, *inter alia*, discotic liquid crystal molecules, as recited in claim 5. Furthermore, as also acknowledged at page 5 of the Official Action, *Schuhmacher et al* does not disclose or suggest an optical compensatory sheet wherein an orientation layer is provided between a transparent support and an optically anisotropic layer, as recited in claim 7.

Okazaki et al relates to an element which can be utilized for the preparation of optical elements such as an optical compensatory sheet and a liquid crystal cell (col. 1, lines 5-7).

Okazaki et al discloses a liquid crystal display having a liquid crystal cell which contains an optical compensatory sheet for improving viewing angle characteristics (col. 1, lines 15-17 and 63-67). *Okazaki et al* discloses that in the optical compensatory sheet, the use of a discotic liquid crystalline compound brings about enlargement of the viewing angle (col. 3, lines 8-10).

Okazaki et al fails to cure the above-described deficiencies of *Schuhmacher et al*. In this regard, the Patent Office has asserted that it would have been obvious to combine the cholesteric special-effect layer of *Schuhmacher et al* with the optically anisotropic layer of *Okazaki et al* (Official Action at pages 5 and 6). Applicant respectfully but strenuously disagrees with the Patent Office's assertion for at least the following reasons.

It is well established that in order for the Patent Office to maintain a *prima facie* case of obvious based on a combination of references, there must be some suggestion or motivation to combine the reference teachings. See M.P.E.P. §2143. In the present case, *Schuhmacher et al* discloses that the cholesteric layer thereof is a special-effect layer (col. 1, lines 5-7; col. 1, lines 40 and 41; col. 5, lines 48-50). *Schuhmacher et al* also discloses that the chiral nematic phase has special optical properties, which can result in a layer in which different colors can be generated which can appear different according to the angle of view (col. 1, lines 27-33). In stark contrast, *Okazaki et al* discloses that the purpose of the optical compensatory sheet and the optically anisotropic layer thereof is to enlarge the viewing angle of a liquid crystal display (col. 1, lines 63-65). Thus, it is apparent that the disclosed function of the *Schuhmacher et al* cholesteric special-effect layer is completely different from the disclosed function of the *Okazaki et al* optically anisotropic layer. *Schuhmacher et al* and

Okazaki et al fail to provide any motivation or suggestion for imparting the special effect of the *Schuhmacher et al* layer to the optically anisotropic layer of *Okazaki et al*.

Applicant notes that the Patent Office has pointed out that *Schuhmacher et al* discloses the following at column 46, lines 35-39:

The color effects which can be achieved by means of the cholesteric films or cholesteric pigments of the invention embrace—owing to the host of achievable reflection wave—lengths the UV and IR region as well as, of course, the region of visible light.

By such disclosure, *Schuhmacher et al* merely states that the color special effects of the cholesteric special-effect layer thereof embrace the UV, IR and visible light regions. Such disclosure does not provide any motivation or suggestion for combining the *Schuhmacher et al* cholesteric special-effect layer with the *Okazaki et al* optically anisotropic layer in the manner set forth in the Official Action.

Furthermore, *Okazaki et al* discloses that the discotic liquid crystalline compound present in the optically anisotropic layer thereof is effective to bring about enlargement of the viewing angle (col. 3, lines 8-10). On the other hand, there is no disclosure or suggestion that the combination of the *Schuhmacher et al* cholesteric special-effect layer with the *Okazaki et al* optically anisotropic layer would result in an improvement in viewing angle. As such, absent an improper resort to Applicant's own disclosure, one of ordinary skill in the art would not have been motivated to combine the *Schuhmacher et al* cholesteric layer with the optically anisotropic layer disclosed by *Okazaki et al*.

For at least the above reasons, it is apparent that no *prima facie* case of obviousness exists with respect to claims 5 and 7. Accordingly, withdrawal of the above §103(a) rejection is respectfully requested.

Claims 9-15 stand rejected under 35 U.S.C. §103(a) as being obvious over *Schuhmacher et al* in view of U.S. Patent No. 6,476,892 (*Aminaka*). Withdrawal of this rejection is respectfully requested for at least the following reasons.

According to one aspect defined by claim 9, an optical compensatory sheet is provided comprising a transparent support and an optically anisotropic layer, wherein the optically anisotropic layer is formed from liquid crystal molecules and monomers having four or more double bonds, said monomers being polymerized to form a cross-linked polymer in the optically anisotropic layer, and wherein the transparent support has a retardation value in plane in the range of 0 to 50 nm and a retardation value along a thickness direction in the range of 70 to 400 nm.

According to another aspect defined by claim 14, a liquid crystal display is provided comprising two polarizing plates, a liquid crystal cell provided between the plates, and at least one optical compensatory sheet placed between the cell and at least one of the plates, said optical compensatory sheet comprising a transparent support and an optically anisotropic layer, wherein the optically anisotropic layer is formed from liquid crystal molecules and monomers having four or more double bonds, said monomers being polymerized to form a polymer in the optically anisotropic layer.

Schuhmacher et al does not disclose or suggest each feature of aspects defined by claims 9 and 14. For example, as acknowledged at page 6 of the Official Action, *Schuhmacher et al* does not disclose or suggest an optical compensatory sheet comprising a transparent support having a retardation value in plane in the range of 0 to 50 nm and a retardation value along a thickness direction in the range of 70 to 400 nm, as recited in claim 9. Furthermore, as also acknowledged at page 6 of the Official Action, *Schuhmacher et al*

does not disclose or suggest a liquid crystal display comprising at least one optical compensatory sheet, as recited in claim 14.

Aminaka relates to an optical compensatory sheet consisting of one cellulose acetate film, as well as a polarizing plate and a liquid crystal display equipped with the optical compensatory sheet (col. 1, lines 7 and 8).

Aminaka fails to cure each of the above-described deficiencies of *Schuhmacher et al.* In this regard, the Patent Office has asserted that it would have been obvious to combine the cholesteric special-effect layer of *Schuhmacher et al* with the compensatory sheet of *Aminaka* (Official Action at page 7). However, as discussed above, *Schuhmacher et al* discloses that the cholesteric special-effect layer thereof generates different colors at different viewing angles. In stark contrast, *Aminaka* discloses that the purpose of the optical compensatory sheet thereof is to optically compensate a liquid crystal cell. The disclosed function of the *Schuhmacher et al* cholesteric special-effect layer is completely different from the disclosed function of the *Aminaka* optical compensatory sheet.

Schuhmacher et al and *Aminaka* fail to provide any motivation or suggestion for imparting the special effects of the layer disclosed by *Schuhmacher et al* to the optical compensatory sheet of *Aminaka*. As such, one of ordinary skill in the art would not have been motivated to combine the *Schuhmacher et al* cholesteric special-effect layer with the optical compensatory sheet disclosed by *Aminaka*, in the manner set forth in the Official Action.

For at least the above reasons, it is apparent that no *prima facie* case of obviousness exists with respect to claims 9 and 14. Accordingly, withdrawal of the above §103(a) rejection is respectfully requested.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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